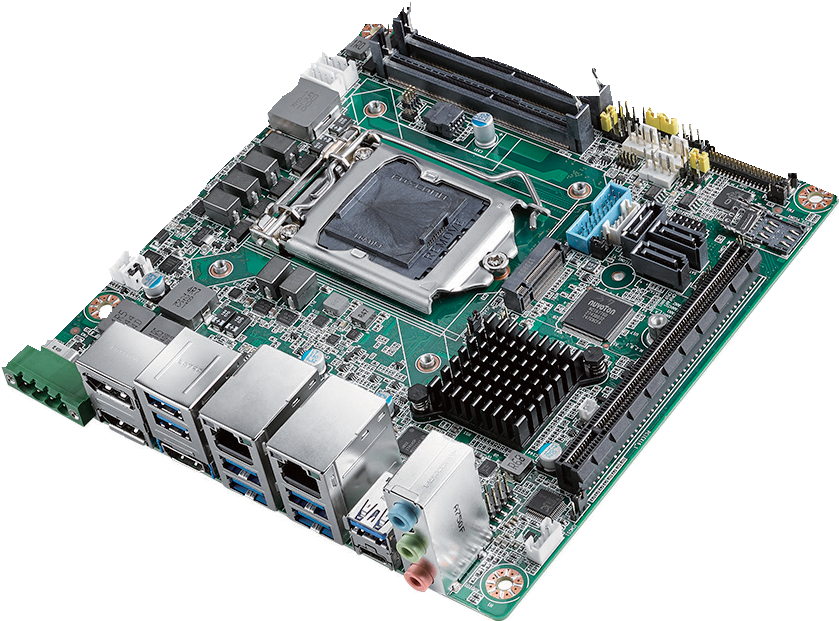
**AIMB-276**

Intel® Core™ i7/i5/i3 LGA 1151 Mini-ITX with dual DP++/HDMI/LVDS(eDP), 2 COM, Dual LAN, PCIe x16, M.2, DDR4, DC Input



RoHS

**COMPLIANT 2002/95/EC**



**Features**

* Supports Intel® 8th Gen Core™ i processor (LGA1151) with Intel Q370 chipset
* Two 260-pin SO-DIMM up to 32GB DDR4 2666 MHz SDRAM
* Supports triple display of DP++/DP++/HDMI/LVDS(eDP)
* Supports PCIe x16 (Gen 3), 1 M.2 B key & 1 M.2 E key, 6 USB 3.1 & 4 USB

3.0 and 3 SATA III

* Support wide range 12V~24V DC Input
* Supports Intel vPro, AMT 12.0, Software RAID 0,1,5,10, TPM 1.2 / 2.0 (optional)
* Supports WISE-PaaS/RMM and Embedded Software APIs

**Software APIs:**

SMBus H/W Monitor Watchdog GPIO

**Utilities:**

BIOS flash Monitoring

Specifications

|  |  |  |  |
| --- | --- | --- | --- |
| Processor System | CPU | i7-8700/i7-8700T i5-8500/i5-8500T i3-8100/i3-8100T Pentium G5400/G5400T | Celeron G4900/G4900T |
| Core Number | 6/6 6/6 4/4 2/2 | 2/2 |
| Max Speed | 3.2/2.4 GHz 3.0/2.1 GHz 3.6/3.1 GHz 3.7/3.1 GHz | 3.1/2.9 GHz |
| SmartCache | 12/12 MB 9/9 MB 6/6 MB 4/4 MB | 2/2 MB |
| TDP | 65/35 W 65/35 W 65/35 W 54/35 W | 54/35 W |
| Chipset | Q370 |  |
| BIOS | AMI EFI 256 Mbit SPI |  |
| Expansion Slot | M.2 2, 1 x B key for SSD and 3G/4G (Type: 2242, 3042mm) & 1 x E key for wireless (Type: 2230mm);  B key supports SATA/PCIe lanes by default, USB2.0 support by BOM change | | |
| PCIe x16 (Gen3) | 16 GB/s per direction, 1 slot |  |
| Memory | Technology | Dual Channel DDR4 2666 MHz SDRAM |  |
| Max. Capacity | 32GB (up to 16GB per SO-DIMM) |  |
| Socket | 2 x 260 PIN DDR4 SO-DIMM (Non-ECC) |  |
| Graphics | Controller | Intel® UHD Graphics 630 / Intel® HD Graphics 615 |  |
| LVDS | Supports dual channel 24-bit up to 1920 x 1200 |  |
| HDMI | Yes, supports max. resolution 4096 x 2160 @60 Hz (HDMI 2.0a) |  |
| eDP | Yes, with internal pin header, supports max. resolution 4096 x 2304 @ 60 Hz (BOM optional) |  |
| Display Port 1.2 | Yes, supports 2 x DP++ with max resolution 4096 x 2304 @ 60 Hz |  |
| Triple Display | DP+DP+HDMI, DP+HDMI+LVDS (or eDP), LVDS(or eDP)+DP+DP |  |
| Ethernet | Interface | 10/100/1000 Mbps |  |
| Controller | GbE LAN1: Intel i219LM; LAN2: Intel I211AT |  |
| Connector | RJ-45 x 2 |  |
| SATA | Max Data Transfer Rate | 600 MB/s (SATA 3.0) |  |
| Channel | 3 (SATA III) |  |
| Rear I/O | HDMI | 1 (HDMI 2.0a) |  |
| Display Port 1.2 | 2 |  |
| Ethernet | 2 |  |
| USB | 6 USB 3.1 + 2 USB USB 3.0 (USB06 is USB 3.1 type C, supports 5V/3A, BOM optional) |  |
| Audio | 3 (Mic-in, Line-out, Line-in) |  |
| Phoenix Connector | 1 |  |
| Internal Connector | USB | 2 (USB 3.0) |  |
| LVDS/inverter | 1 |  |
| Serial | 2 (1 x RS-232/422/485, 1 x RS-232, supports 5V/12V) |  |
| SATA | 3 (SATA 3.0) |  |
| M.2 2, 1 x B key for SSD and 3G/4G (Type: 2242, 3042mm);  1 x E key for wireless (Type: 2230mm) | | |
| IrDA | - |  |
| GPIO | 8-bit |  |
| Watchdog Timer | Output | System reset |  |
| Interval | Programmable 1 ~ 255 sec/min |  |
| Power Requirements | Input power | 12 ~ 24V DC Input |  |
| TBD | | |
| Environment | Operating Non-Operating | | |
| Temperature | 0 ~ 60° C (32 ~ 140° F), depends on CPU speed -40 ~ 85° C (-40 ~ 185° F)  and cooler solution |  |
| Physical Characteristics | Dimensions | 170 mm x 170 mm (6.69" x 6.69") |  |

**Industrial Motherboards & Systems**

All product specifications are subject to change without notice. Last updated: 25-Feb-2019

AIMB-276

Ordering Information

USB 2.0

SATA/ PCIex2

USB 3.0

PCIex1

USB 2.0

USB 3.1

PCIe x1

PCIe x1

SATA 3

Display port

Channel B

Display port

Channel A

Display port

PCIe x 16

Display port

**Block Diagram**

1 x RS-232 & 1 x RS-232/422/485, PS/2, WDT, 8-bit GPIO

Infineon TPM 1.2/2.0 (Optional)

BIOS

Audio Codec Realtek ALC888S

Super IO Nuvuton 6776D

M.2\_B key (USB2.0 support by

BOM change)

4 USB 3.0 ports

M.2\_E key

6 USB 3.1 ports, USB06 is optional (type C)

GbE LAN2: Intel I211AT

3 SATA III Ports

GbE LAN1: Intel I219LM

Q370

HDMI 2.0a

DDR4 2666 MHz SO-DIMM

eDP (optional)

LVDS 24/48 bits

DDR4 2666 MHz SO-DIMM

Display Port 1.2

PCIe x 16 (Gen 3)

Intel 8th Gen Core i7/i5/i3/Pentium/

Celeron processor

Display Port 1.2

HD Audio

SPI

LPC

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **P/N** | **Chipset** | **DP** | **LVDS/eDP** | **HDMI** | **GbE LAN** | **COM** | **M.2 B key** | **M.2 E key** | **SATA III** | **USB 3.1/3.0** | **TPM** | **AMP** | **PCIex16** | **Power** |
| AIMB-276G2-00A1E | Q370 | 2 | 1/(1) | 1 | 2 | 2 | 1, Type: 2242 & 3042 | 1, Type: 2230 | 3 | 5+(1)/4 | (1) | (1) | 1 | 12~24V (via phoenix connector) |
| AIMB-276G2-01A1E | Q370 | 2 | 1/(1) | 1 | 2 | 2 | 1, Type: 2242 & 3042 | 1, Type: 2230 | 3 | 5+(1)/4 | (1) | (1) | 1 | 12V (via ATX12V1) |

\*() BOM options available on MP version.

Packing List

|  |  |  |
| --- | --- | --- |
| **Part Number** | **Description** | **Quantity** |
| 1700003194 | SATA HDD cable | 1 |
| 1700018785 | SATA power cable (1 port, 25cm) | 1 |
| 1700022363-01 | 1-to-1 serial port cable 17CM | 2 |
| TBD | I/O port bracket | 1 |
| TBD | Startup manual | 1 |
| 1700023082-11 | ATX 2\*10P to 1\*3P-2.0 25cm cable | 1 |

Optional Chassis

|  |  |
| --- | --- |
| **Part Number** | **Description** |
| AIMB-B2000-15ZE | Mini-ITX chassis with 150W ATX power supply |
| AIMB-B2000-00YE | Mini-ITX chassis (Optional external AC-DC 60W/84W Adaptor) |

I/O View

Optional Accessories

|  |  |
| --- | --- |
| **Part Number** | **Description** |
| 1700020277-01 | Dual port USB 3.0 cable 30cm with IO bracket |
| 1703060191 | KB/MS cable 1\*6P-2.0/M-DIN 6P(F)\*2, 19cm |
| 1700023768-01 | 1x4P Phoenix to DC Jack 15cm cable |
| 1960053207N001 | LGA1150 CPU cooler for CPU TDP 65W, 92.9 (W) x 92.9 (L) x 46 (H)  mm |
| 1960060732N001 | LGA1150 CPU cooler for CPU TDP 45W, 80 (W) x 80 (L) x 32.2 (H) mm |
| 96PSA-A120W12P4 | ADP A/D 100-240V 120W 12V C14 TERMINAL BLOCK 4P |

Embedded OS/API Riser Card

|  |  |  |  |
| --- | --- | --- | --- |
| **OS/API** | **Part No.** | **968 P/N** | **Description** |
| Windows 10 |  |  |  |

|  |  |
| --- | --- |
| **Part Number** | **Description** |
| AIMB-RF10F-01A1E | 1U riser card with 1 PCIex16 expansion |
| AIMB-RF20F-02A1E | 2U riser card for 1xPCIex16 to 2 PCIex16 (both Lane are PCIEX8 only) |

\*\* compliant with AIMB-276G2 (Q370) sku only

DMI x 4

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